

MARJORIE G. BARDEEN
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EDUCATIONAL BACKGROUND

Educational Certification (Mathematics) 1984, Elmhurst College, Elmhurst, IL.

Graduate Student 1963-1966, thirty credits toward a Masters Degree in Computer Science, University of Minnesota, Minneapolis, MN.

B.A. Mathematics, 1963, University of Minnesota, Minneapolis, MN. Undergraduate 1959-1962, Cornell University, Ithaca, NY.

EDUCATION-RELATED EMPLOYMENT HISTORY

- 2015 – Present Employed as Spokesperson of the QuarkNet Collaboration and Co-Principal Investigator currently with A. Goussioou, D. Karmgard and M. Wayne of the QuarkNet NSF Grants, Fermilab, Batavia, IL. Responsibilities: to provide effective leadership for the collaboration and be accountable to the National Science Foundation and the U.S. Department of Energy for project management since 1995.
- 1995-2015 Education Office Manager, Fermi National Accelerator Laboratory, Batavia, IL. Responsibilities: to provide effective leadership, guidance, supervision and a quality workplace for the development and delivery of the education programs; to request and manage funds to sustain the Education Office and its programs.
- 1993-1995 Education Program Manager, Fermi National Accelerator Laboratory, Batavia, IL. Responsibilities: to supervise the design and implementation of Fermilab precollege educational programs: to manage the program of the Science Education Center; to develop grant proposals in conjunction with project program committees; to write appropriate reports for the funding agencies.
- Feb-Dec 1993 Deputy Head, Education Office, Superconducting Super Collider, Dallas, TX. Responsibilities: to develop an International Science Education Center; to manage the planning and development process for regional science education programs; to manage program evaluation including arranging outside evaluation; to develop grant proposals in conjunction with project program committees; to write appropriate reports for funding agencies.
- 1989-1993 Education Program Manager, Fermi National Accelerator Laboratory, Batavia, IL. Responsibilities: to supervise the design and implementation of Fermilab precollege educational programs: to manage the program of the Science Education Center; to develop grant proposals in conjunction with project program committees; to write appropriate reports for the funding agencies.
- 1983-1989 Program Director, Friends of Fermilab (FFLA), Batavia, IL. Responsibilities: to supervise the design and implementation of all FFLA educational programs: to develop grant proposals in conjunction with project program committees; to write reports for the funding agencies; to publish reports for the membership.
- 1983-1985 Director, Summer Institute for Science Teachers at Fermilab, Batavia, IL. Responsibilities: to oversee and evaluate the Institute; to hire the staff; to plan the program; to monitor the budget and appraise expenditures; to write appropriate reports for the funding agencies.
- 1980-1985 Teacher for the Gifted and Talented at Hadley Junior High School, Glen Ellyn, IL. Responsibilities: to develop and teach interdisciplinary study units; to teach, with librarians and language arts teachers, research skills to all sixth graders; to provide the environment for stu-

dents to pursue individual projects in a resource room; to sponsor the school newspaper and a student-produced television show; to coordinate mathematics contests.

- 1975 Computer Program Director, Crescent Park Elementary School, Palo Alto, CA. Responsibilities: to supervise the operation of the school computer laboratory; to teach programming to qualified 4–6 graders.
- 1967-1968 Programmer, Physics Department, the State University of New York at Stony Brook, Stony Brook, NY. Responsibilities: to modify various programs for use at the university.
- 1963-1966 Research Assistant, University of Minnesota Computer Center, Minneapolis, MN. Responsibilities: to run the main computer at the Center; to help users debug their programs and use the Center's programs, particularly those involving statistical analysis; to write or modify programs.

RECENT GRANTS

- 1998–present Co-Principal Investigator, QuarkNet, NSF Grants, Fermilab, Batavia, IL.
- 2005-2103 Co-Principal Investigator, I2U2, NSF Grants, Fermilab, Batavia, IL.
- 1996-2001 Principal Investigator, The Fermilab ARISE Project, Illinois State Board of Education Scientific Literacy Grant, Batavia, IL.

COMMUNITY LEADERSHIP EXPERIENCE

- 2013-present International Particle Physics Outreach Group, Co-Chair, Geneva, Switzerland.
- 2012-2013 Co-Convener, Communication, Education, and Outreach Group, report titled *Planning the Future of Particle Physics (Snowmass 2013): Chapter 10: Communication, Education, and Outreach*, Fermilab and Minneapolis, MN.
- 1987-1993 Board of Trustees, College of DuPage; Vice-Chair 1989-90, Chair 1990-1993, Glen Ellyn, IL.
- 1983-1985 Secretary, Illinois Association of School Boards, DuPage Division, Lombard, IL.
- 1979-1985 Board of Education, Glenbard Township High School, District 87; President, 1980-1985, Glen Ellyn.

RECENT PAPERS AND PRESENTATIONS

- “Engaging Young People with Our Science,” 3rd International Conference on New Frontiers in Physics, Chania, Greece, July 2014.
- “Particle Physics Outreach for Secondary Education,” University of Athens, Athens, Greece, July 2014.
- “Data Portfolio: Improving student scientific literacy through access to primary source data and technology,” International Conference on High Energy Physics, Valencia, Spain, July 2014.
- “Bringing Higgs Bosons into High Schools,” American Association for the Advancement of Science, Chicago, IL, February 2014.
- “What’s Happening at Fermilab? You can run like a proton,” Science Education Workshop, Nagoya, Japan, December 2013.
- “The CMS Masterclass and Particle Physics Outreach,” Kenneth Cecire, Marjorie Bardeen and Thomas McCauley, Fermilab Pub and 2nd International Conference on New Frontiers in Physics, Chania, Greece, July 2013, published online, [EPJ Web of Conferences](#), April 2014.

“Particle Physics Outreach for Secondary Education,” with Spencer Pasero, American Physical Society April Meeting, Denver, CO, April 2013.

“The QuarkNet Collaboration,” Cosmic Ray Workshop, Tbilisi, Georgia, December 2012.

“30 Years of K-12 Educational Programming at Fermilab (Engaging Students in Our Science),” Becoming Engaged: Initiatives That Can Change Science Education Workshop, Aspen, CO, July 2012.

“Scientific Discovery & Scientific Literacy with LHC Data,” American Association of Physics Teachers Summer Meeting, Philadelphia, PA, July 2012.

“Opportunities to Learn Scientific Literacy,” International Conference on High Energy Physics, Melbourne, Australia, July 2012.

“Cosmic Rays for High School Students,” American Physical Society March Meeting, Atlanta, GA, March 2012.

“The QuarkNet Collaboration,” Technical University of Dresden, Dresden, Germany, November 2011.

“Particle Physics Outreach to Secondary Education,” Marjorie G. Bardeen, K. Erik Johansson and M. Jean Young, Fermilab Pub and Annual Review of Nuclear and Particle Science, Vol. 61: pp. 149-170, November 2011.

“The Lederman Science Center: Past, Present, Future,” Marjorie G. Bardeen, Fermilab Pub and 13th ICATPP Conference on Astroparticle, Particle, Space Physics and Detectors for Physics Applications Proceedings, October 3-7, 2011, Como, Italy, to be published by World Scientific.

“Celebrating 30 Years of K-12 Educational Programming at Fermilab,” Marjorie G. Bardeen and Michael Cooke, Fermilab Pub and Proceedings of the DPR-2001 Conference, Providence, RI, August 8-13, 2011, published on the SLAC Electronic Proceedings repository.

“Getting Data to Students,” European Particle Physics Outreach Group, Geneva, Switzerland, October 2009.

“Planning the Lederman Science Center,” European Particle Physics Outreach Group, Milan, Italy, April 2009.

“Teaching & Learning with Particle Physics ‘Stuff,’” American Association of Physics Teachers, Chicago, February 2009.

“Outreach Activities of the U.S. Particle Physics Community,” European Particle Physics Outreach Group, Prague, CZ, April 2008.

“E&O at Fermilab: Ideas from the Field,” Canadian Association of Physics Annual Congress, Saskatoon, Saskatchewan, Canada, June 19, 2007.

“International Student Collaboration,” Cosmic Ray Workshop associated with the 2007 International Linear Collider Workshop, Hamburg, Germany, May 31, 2007.

“The QuarkNet Collaboration,” Institute for Complex Adaptive Matter, Santa Fe, NM, April 2007.

“Teaching and Learning with the Open Science Grid,” MAGPI Math Science Virtual Forum, April 5, 2007.

“Getting to Know You: Lessons from the Field,” LIGO Science Education Center Opening, Livingston, LA, November 13, 2006.

“QuarkNet Postcards,” American Physical Society DPF Outreach Session, Honolulu, HI, October 20, 2006.

“Lederman Science Center,” DOE Museum Meeting, Las Vegas, NV, June 15, 2006.

“Teaching and Learning with the Open Science Grid,” TeraGrid ’06, Indianapolis, IN, June 12, 2006.

“K-12 Education and Outreach,” DUSEL Homestake Lab Workshop, Lead, SD, February 10, 2006.

“Broader Impacts of the International Linear Collider,” M. Bardeen and R. Ruchti, 2005 ALCPG & ILC

Workshops, Snowmass, Aspen, CO. (www.slac.stanford.edu/econf/C0508141/proc/papers/PLEN0034.PDF)

“The QuarkNet/Grid Collaborative Learning e-Lab,” Marjorie Bardeen, Eric Gilbert, Thomas Jordan, Paul Nemywoda, Elizabeth Quigg, Mike Wilde and Yong Zhao, Fermilab Preprint and Collaborative and Learning Applications of Grid Technology and Grid Education Conference Proceedings, Summer 2005. (www-spires.fnal.gov/spires/find/hep?key=6090559)

“High School Students in the Summer: Everything You Wanted to Know, but . . . ,” University of Texas, Brownsville, March 29, 2005.

“I didn’t know Hallmark did Engineer’s Day,” Fermilab, February 21, 2005.

“Physics First, The vision . . . and a passion . . . of Leon Lederman,” American Association for the Advancement of Science Annual Meeting, Seattle, WA, February 12, 2004.

“Transforming Education: Researching the Potential of the Grid,” World Summit on the Information Society, ICT for Development Platform, Geneva, Switzerland, December 10-12, 2003.

“QuarkNet Cosmic Ray Studies and the Grid,” Open Science Grid Meeting, National Science Foundation, Arlington, VA, September 17, 2003.

“Partnerships between Scientists and Educators – A Vital Ingredient in Science Education Reform,” Science Literacy for the 21st Century, Prometheus Books, October 2002.

“Web-based Prairie Units and Resources,” with W. Fraccaro, B. Jokiel and E. Quigg, Prairie Enthusiasts 13th Annual Banquet and Prairie Conference, Eau Claire, WI, March 3, 2001.

AWARDS

Fellow, American Association for the Advancement of Science, 2009.

Max Beberman Distinguished Alumni Award, University High School, Urbana, IL, 1990.

Outstanding Woman Leader of DuPage County in Education, West Suburban YWCA, 1989.

“Those Who Excel,” Illinois State Board of Education, 1984.

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